WHAT IS CLAIMED IS:

1. A stereo synthesizing apparatus to produce left and right pseudo-stereophonic output signals from a monophonic signal comprising:

an input configured to receive a monophonic signal;

a perspective filter operatively coupled to the input, the perspective filter configured to de-emphasize selected frequency portions of the monophonic signal to produce a first filtered signal;

a bandpass filter operative coupled to the monophonic input, the bandpass filter configured to emphasize frequencies of the monophonic signal associated with human voice frequencies;

a ninety-degree phase shifter operatively coupled to an output of the bandpass filter to produce a second filtered signal;

a left channel mixer adapted to add the first filtered signal to the second filtered signal to produce a left channel output signal; and

a right channel mixer adapted to subtract the first filtered signal from the second filtered signal to produce a right channel output signal, wherein the left channel output signal and the right channel output signal have a relatively lower phase difference in a mid-band frequency range and a relatively higher phase difference outside the mid-band frequency range.

2. The stereo synthesizing apparatus of Claim 1 wherein the left channel output signal and the right channel output signal are substantially in-phase in the mid-band frequency range and substantially out of phase in at least one band outside the mid-band frequency range.

3. The stereo synthesizing apparatus of Claim 1 wherein the left channel output signal and the right channel output signal are substantially in-phase in the mid-band frequency range and substantially out of phase at lower frequencies.

4. The stereo synthesizing apparatus of Claim 1 wherein the left channel output signal and the right channel output signal are substantially in-

phase in the mid-band frequency range and substantially out of phase at higher and lower frequencies.

5. The stereo synthesizing apparatus of Claim 1 wherein the stereo synthesizing apparatus phase equalizes the left channel output signal and the right channel output signal such that the left and right channel output signals are substantially in-phase in a frequency band corresponding to human voice frequencies.

6. The stereo synthesizing apparatus of Claim 1 wherein the left channel output signal and the right channel output signal are substantially in-phase in a frequency band where a listener has increased phase sensitivity.

7. The stereo synthesizing apparatus of Claim 1 wherein the mid band frequency range is about 400 Hz to about 10kHz, and more particularly about 700 Hz to about 7kHz.

8. A stereo synthesizing apparatus to produce left and right pseudo-stereophonic output signals from a monophonic signal comprising:

an input configured to receive a monophonic signal;

a perspective filter operatively coupled to the input, the perspective filter configured to de-emphasize selected frequency portions of the monophonic signal to produce a first filtered signal;

a bandpass filter operative coupled to the monophonic input, the bandpass filter configured to emphasize frequencies of the monophonic signal associated with human voice frequencies;

a ninety-degree phase shifter operatively coupled to an output of the bandpass filter to produce a second filtered signal;

a left channel mixer adapted to add the first filtered signal to the second filtered signal to produce a left channel output signal; and

a right channel mixer adapted to subtract the first filtered signal from the second filtered signal to produce a right channel output signal, wherein the left channel output signal and the right channel output signal have a relatively lower phase difference in a frequency range associated with human voice and a relatively higher phase difference in at least one

frequency band above the frequency range associated with human voice frequencies.

9. The stereo synthesizing apparatus of Claim 8 wherein the perspective filter de-emphasizes frequency components in a frequency range centered near 2000 Hz.

10. The stereo synthesizing apparatus of Claim 8 wherein the perspective filter provides a maximum de-emphasis of approximately 8 dB.

11. The stereo synthesizing apparatus of Claim 8 wherein the bandpass filter has a passband centered at approximately 2000 Hz.

12. The stereo synthesizing apparatus of Claim 8 wherein the perspective filter de-emphasizes frequencies in a frequency band corresponding to a bandwidth of the bandpass filter.

13. A stereo synthesizing apparatus to produce left and right pseudo-stereophonic output signals from a monophonic signal comprising:

an input configured to receive a monophonic signal;

a perspective filter operatively coupled to the input, the perspective filter configured to de-emphasize selected frequency portions of the monophonic signal to produce a first filtered signal;

a bandpass filter operative coupled to the monophonic input, the bandpass filter configured to emphasize frequencies of the monophonic signal relatively near human voice formant frequencies;

a ninety-degree phase shifter operatively coupled to an output of the bandpass filter to produce a second filtered signal;

a left channel mixer adapted to add the first filtered signal to the second filtered signal to produce a left channel output signal; and

a right channel mixer adapted to subtract the first filtered signal from the second filtered signal to produce a right channel output signal, wherein the left channel output signal and the right channel output signal are in-phase at a frequency of approximately 2000 Hz.

14. The stereo synthesizing apparatus of Claim 13 wherein the left channel output signal and the right channel output signal are substantially in-

phase and substantially equal in amplitude at a crossover frequency near 1100Hz.

15. The stereo synthesizing apparatus of Claim 13 wherein the left channel output signal and the right channel output signal are substantially 180 degrees out of phase and equal in amplitude at frequencies above about 10kHz.

16. The stereo synthesizing apparatus of Claim 13 wherein the left channel output signal and the right channel output signal are substantially 180 degrees out of phase and equal in amplitude at frequencies below about 300Hz.

17. The stereo synthesizing apparatus of Claim 13 wherein the left channel output signal and the right channel output signal are substantially in-phase and substantially equal in amplitude at a crossover frequency in a range of about 500Hz to about 9kHz.

18. A signal processor that produces more outputs than inputs comprising:

a first filter operatively coupled to an input signal, the first filter configured to de-emphasize frequency components relative to other frequency components of the input signal to produce first digital signal information;

a second filter operatively coupled to the input signal, the second filter configured to emphasize frequency components relative to other frequency components of the input signal to produce second digital signal information;

a first combiner that combines at least a portion of the first digital signal information with at least a portion of the second digital signal information to produce a first channel output signal; and

a second combiner that combines at least a portion of the first digital signal information with at least a portion of the second digital signal information to produce a second channel output signal, wherein the first channel output signal and the second channel output signal have a lower phase difference in a mid-band frequency range and a higher phase difference at relatively high frequencies.

19. The signal processor of Claim 18 wherein the first filter comprises a perspective filter.

20. The signal processor of Claim 19 wherein the perspective filter de-emphasizes frequencies in a frequency band centered near 2000 Hz.

21. The signal processor of Claim 19 wherein the perspective filter de-emphasizes frequencies in a frequency band corresponding to frequencies produced by a human vocal tract.

22. The signal processor of Claim 18 wherein the second filter comprises a bandpass filter.

23. The signal processor of Claim 18 wherein the second filter comprises a ninety-degree phase shifter.

24. The signal processor of Claim 18 wherein the first combiner comprises an adder.

25. The signal processor of Claim 18 wherein the second combiner comprises a subtractor.

26. The signal processor of Claim 18 wherein the first combiner is an adder and the second combiner is a subtractor.

27. A digital signal processor that produces more outputs than inputs comprising a software program which implements:

a first filter operatively coupled to an input digital signal, the first filter configured to de-emphasize frequency components relative to other frequency components of the input signal to produce first digital data;

a second filter operatively coupled to the input digital signal, the second filter configured to emphasize frequency components relative to other frequency components of the input signal to produce second digital data;

a first combiner that combines at least a portion of the first digital data with at least a part of the second digital data to produce a first channel output digital signal; and

a second combiner that combines at least a portion of the first digital data with at least a portion of the second digital data to produce a

second channel output digital signal, wherein the first channel output digital signal and the second channel output digital signal have a lower phase difference in a mid-band frequency range and a higher phase difference at relatively high frequencies.

28. The digital signal processor of Claim 27 wherein the input digital signal is a monophonic signal, the first channel output digital signal is a first pseudo-stereo signal, and the second channel output digital signal is a second pseudo-stereo signal.

29. A signal processor that produces more outputs than inputs comprising:

a first filter operatively coupled to an input signal, the first filter configured to de-emphasize frequency components relative to other frequency components of a first mid-band frequency range of the input signal to produce first digital data;

a second filter operatively coupled to the input signal, the second filter configured to emphasize frequency components relative to other frequency components of a second mid-band frequency range of the input signal to produce second digital data;

a first combiner that combines at least a portion of the first digital data with at least a portion of the second digital data to produce a first output signal; and

a second combiner that combines at least a portion of the first digital data with at least a portion of the second digital data to produce a second output signal, wherein the first output signal and the second output signal are in-phase at a frequency of approximately 2000 Hz.

30. The signal processor of Claim 29 wherein the first filter comprises a perspective filter.

31. The signal processor of Claim 30 wherein the perspective filter de-emphasizes frequencies in a frequency band centered near 2000 Hz.

32. The signal processor of Claim 30 wherein the perspective filter de-emphasizes frequencies in a frequency band corresponding to frequencies produced by a human vocal tract.

33. The signal processor of Claim 29 wherein the second filter comprises a bandpass filter.

34. The signal processor of Claim 29 wherein the second filter comprises a ninety-degree phase shifter.

35. The signal processor of Claim 29 wherein the first combiner comprises an adder.

36. The signal processor of Claim 29 wherein the second combiner comprises a subtractor.

37. The signal processor of Claim 29 wherein the first combiner is an adder and the second combiner is a subtractor.

38. A digital signal processor that produces more outputs than inputs comprising a software program which implements:

a first filter operatively coupled to an input digital signal, the first filter configured to de-emphasize frequency components relative to other frequency components of a first mid-band frequency range of the input digital signal to produce a first data set;

a second filter operatively coupled to the input digital signal, the second filter configured to emphasize frequency components relative to other frequency components of a second mid-band frequency range of the input digital signal to produce a second data set;

a first combiner that combines at least a portion of the first data set with at least a portion of the second data set to produce a first output signal; and

a second combiner that combines at least a portion of the first data set with at least a portion of the second data set to produce a second output signal, wherein the first output signal and the second output signal are in-phase at a frequency of approximately 2000 Hz.

39. The stereo synthesizer of Claim 38 wherein the input digital signal is a monophonic signal, the first output signal is a first pseudo-stereo signal, and the second output signal is a second pseudo-stereo signal.

40. A method for audio signal processing comprising:

filtering an input signal in a first filter to de-emphasize frequency components relative to other frequency components of the input signal to produce first digital signal information;

filtering the input signal in a second filter to emphasize frequency components relative to other frequency components of the input signal to produce second digital signal information;

combining by a first combining method at least a portion of the first digital signal information with at least a portion of the second digital signal information to produce a left output signal; and

combining by a second combining method at least a portion of the first digital signal information with at least a portion of the second digital signal information to produce a right output signal, wherein the left output signal and the right output signal have a lower phase difference in a mid band frequency range and a higher phase difference in at least one band outside of the mid band frequency range.

41. The method of Claim 40 wherein the first filter comprises a perspective filter.

42. The method of Claim 40 wherein the second filter comprises a bandpass filter.

43. The method of Claim 40 wherein the second filter comprises a phase shifter.

44. The method of Claim 40 wherein the first combining method comprises summing.

45. The method of Claim 40 wherein the second combining method comprises subtracting.

46. The method of Claim 40 wherein the first combining method comprises summing and the second combining method comprises subtracting.

47. A method for audio signal processing comprising:

filtering an input signal in a first filter to de-emphasize frequency components relative to other frequency components of a first mid-band frequency range of the input signal to produce a first digital signal;

filtering the input signal in a second filter to emphasize frequency components relative to other frequency components of a second mid-band frequency range of the input signal to produce a second digital signal;

combining by a first combining method at least a portion of the first digital signal with at least a portion of the second digital signal to produce a left output signal; and

combining by a second combining method at least a portion of the first digital signal with at least a portion of the second digital signal to produce a right output signal, wherein the left output signal and the right output signal are in-phase at a frequency of approximately 2000 Hz.

48. The method of Claim 47 further comprising recording the left and right output signals.

49. The method of Claim 47 further comprising broadcasting the left and right output signals.

50. The method of Claim 47 further comprising providing the left and right output signals to loudspeakers.

51. A pseudo-stereo sound recording made by the method of Claim 47.

52. A signal processor that produces more outputs than inputs comprising a software program which implements:

first filter means for filtering an input digital signal to de-emphasize frequency components relative to other frequency components of the input signal to produce first digital data;

second filter means for filtering the input signal to emphasize frequency components relative to other frequency components of the input signal to produce second digital data;

first combiner means for combining at least a portion of the first digital data with at least a portion of the second digital data to produce a first output signal; and

second combiner means for combining at least a portion of the first digital data with at least a portion of the second digital data to produce a second output signal, wherein the first output signal and the second output signal have a lower phase difference in a mid-band frequency range and a higher phase difference at relatively high frequencies.

53. The signal processor of Claim 52 wherein the first filter means comprises a perspective filter.

54. The signal processor of Claim 53 wherein the perspective filter de-emphasizes frequencies in a frequency band centered near 2000 Hz.

55. The signal processor of Claim 53 wherein the perspective filter de-emphasizes frequencies in a frequency band corresponding to frequencies produced by a human vocal tract.

56. The signal processor of Claim 52 wherein the second filter means comprises a bandpass filter.

57. The signal processor of Claim 52 wherein the second filter means comprises a ninety-degree phase shifter.

58. A digital signal processor that produces more outputs than inputs comprising:

first filter means for filtering an input signal to de-emphasize frequency components relative to other frequency components of a first mid-band frequency range of the input signal to produce a first data set;

second filter means for filtering the input signal to emphasize frequency components relative to other frequency components of a second mid-band frequency range of the input signal to produce a second data set;

first combiner means for combining at least a portion of the first data set with at least a portion of the second data set to produce a first output signal; and

second combiner means for combining at least a portion of the first data set with at least a portion of the second data set to produce a second output signal, wherein the first output signal and the second output signal are in-phase at a frequency of approximately 2000 Hz.

59. The digital signal processor of Claim 58 wherein the first combiner means comprises an adder.

60. The digital signal processor of Claim 58 wherein the second combiner means comprises a subtractor.